Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 5 of the Commission's	)	ET Docket No. 96-256
Rules to Revise the Experimental Radio	)	
Service Regulations	)	

NOTICE OF PROPOSED RULE MAKING

Adopted: December 13, 1996; Released: December 20, 1996

Comment Date: February 10, 1997
Reply Comment Date: February 28, 1997

By the Commission:

INTRODUCTION

1. By this action, we propose to revise Part 5 of our rules, which governs the Experimental Radio Service (ERS). We take this action to promote technical innovation and new services by encouraging experiments; ensure that experimental licenses do not result in abuse of our processes; eliminate unnecessary and burdensome experimental regulations; and protect public safety frequencies.

2. Specifically, we propose to: 1) permit longer license terms; 2) permit blanket licensing of related multiple experiments by a single entity and of fixed and mobile stations that are part of the same experiment; 3) permit electronic filing of experimental applications; 4) encourage student experiments by issuing licenses to schools, as well as to individual students, and by permitting use of additional frequencies; 5) encourage special temporary authorizations (STAs) by making them independent of other experimental licenses and by expediting processing of STAs where circumstances warrant; 6) limit the size and scope of each market study on a case-by-case basis, and to immediately terminate any such study that we determine to be in excess of this size and scope; 7) limit STAs to single short-term, non-renewable authorizations; 8) eliminate the requirement that experimental licensees contact our Compliance and Information Bureau (CIB) before commencing operation; 9) eliminate rules that specify that a construction permit be obtained in conjunction with an experimental license and that expiration dates of experimental licenses be distributed over the 12 calendar months; 10) propose new rules to ensure that

experiments avoid public safety frequencies; and, 11) consolidate and reorganize the rules, including transferring wildlife and ocean buoy tracking operations from Part 5 to Part 90, and soliciting comment on transferring rules governing broadcasting experiments that are not directed toward improvement of the technical phases of operation and service of licensed broadcast stations from Part 74 to Part 5.

BACKGROUND

3. Section 303(g) of the Communications Act of 1934, as amended, (the Act) authorizes the Commission to provide for experimental use of frequencies and charges the Commission with encouraging the larger and more effective use of radio in the public interest.[1] The primary purpose of the ERS is to provide for experimental uses of radio frequencies and for development of techniques and systems that are not otherwise permitted under existing service rules. The ERS provides opportunity for manufacturers, inventors, entrepreneurs, and students to experiment with new radio technologies, new equipment designs, characteristics of radio wave propagation, or new service concepts related to the use of the radio spectrum.[2] While some experimentation and development within existing services is allowed, such activities are restricted to applicants that are eligible to apply for a license in a particular service and on frequencies that are allocated to that service.

4. In order to encourage innovation, the ERS rules provide great flexibility with regard to allowable frequency range,[3] power, and emission. However, in order to protect allocated services, ERS licenses are issued on the condition that experimental operations not cause interference to authorized stations of such services, and experimental operations are not protected from interference from allocated services. Additionally, ERS stations can be required immediately to cease operations at our request, and ERS licenses are subject to revocation without notice.

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[1] *See* Section 303(g) of the Communications Act of 1934, as amended, 47 U.S.C. § 303(g).

[2] Some other uses that are permitted under Part 5 are: 1) experimentation for purely scientific purposes; 2) development of equipment under Federal Government contract, foreign contract, or for export; 3) technical demonstration of equipment or techniques; 4) testing of equipment in connection with production or type acceptance, approval or certification; 5) field strength surveys or demonstration of equipment to prospective purchasers; 6) development of radio techniques, equipment, and operational or engineering data related to an existing or proposed radio service; and 7) provision of communications essential to research projects where other means of communications are not available.

[3] Any non-Government frequency can be used for experimental operations with the approval of the Commission. If a frequency is shared with the Government, approval must also be obtained from the Frequency Assignment Subcommittee of the National Telecommunications and Information Administration's Inderdepartment Radio Advisory Committee.

5. We last updated our ERS rules in 1983.[4] Since that time there have been significant changes in services and technologies, and the competitive and rapidly developing telecommunications market has increased the importance of maintaining current and useful rules to govern the ERS. For example, during the Personal Communications Service (PCS) rule making proceeding, approximately 225 experimental authorizations were granted to develop new PCS concepts and technologies. Not only did the experimental licensees benefit from the information gathered through these experiments, but the Commission was able to learn from them and make more informed decisions regarding the PCS allocation.

6. Additionally, based on our prior experience, we believe that our ERS rules should be significantly modified to eliminate unnecessary and burdensome rules, and to better promote experimentation while ensuring that the experimental process is not abused. In this way, we believe that the ERS can better foster the development of new services and technologies, which stimulates economic growth, creates new jobs, and increases spectrum utilization and efficiency. Accordingly, on our own motion and as part of our continuing effort to improve our regulatory structure, we are initiating this proceeding to propose modifications to the ERS regulations, as discussed below.

DISCUSSION

A. Promotion of Technical Innovation and New Services by Encouraging Experiments

License Period

7. Experimental licenses are currently granted for two years.[5] However, we believe that it may be beneficial to certain segments of the communications industry -- in particular, companies which desire to conduct experiments that involve ongoing research and development -- to provide for a longer license period. For example, some equipment manufacturers may have the need for long-term experimental licenses covering various land mobile radio bands to support the continuing development of families of products. We believe that permitting such entities to obtain long-term experimental licenses may encourage them to conduct long-term research and development. Long-term licenses will decrease the regulatory burden on our licensees and on our staff which processes renewal applications. Therefore, we request comment on the establishment of a new class of experimental license, with a five-year term, to support long-term operations. This additional option would give applicants the flexibility to apply for either a two-year or five-year license, depending on their needs. We request comment specifically on the appropriate length for such an extended license period. We also request comment on whether

[4] *See Report and Order*, GEN Docket No. 82-469, 48 FR 52733 (1983).

[5] *See* 47 C.F.R. § 5.63(a).

this new class of experimental license should be limited to certain parties, such as those involved in long-term product development, or whether any applicant should be permitted to apply for an extended license as long as it provides sufficient justification.

Filing of Applications

8. We propose to make two changes regarding the filing of experimental applications in order to simplify the filing process and encourage applications to be filed. Currently, Sections 5.55(a) and 5.55(b)[6] respectively require a separate application for fixed and mobile stations; and Section 5.62 requires, under normal circumstances, separate licenses for each phase of an experimental program. However, many experimental projects involve a system containing several fixed stations or combinations of fixed and mobile stations, or involve at least loosely-related experiments. Requiring separate applications for the components of the experimental systems or the different experiments in these cases is a disincentive to the filing of applications and is burdensome to the public and to our staff. Accordingly, we propose to replace existing Sections 5.55(a) and 5.55(b) with a single provision that would allow an applicant to apply for all of the stations in its experimental system, including fixed stations and associated mobile units, on one experimental license application; and similarly to modify Section 5.62 to permit the filing of a single application for multiple experiments, when doing so would be appropriate for the proposed project.

9. In addition, we note that we are in the process of establishing electronic application filing procedures for several of our services. For example, Sections 1.743(e) and 1.913(e) permit electronic signatures for applications submitted to our Common Carrier Bureau and Wireless Telecommunications Bureau, respectively. However, our Part 5 rules currently do not accommodate electronic filing of experimental applications, and existing Section 5.53(f) states that facsimile signatures will not be accepted. Accordingly, we propose to delete Section 5.53(f) and create a new Section 5.57(e) to permit our Office of Engineering and Technology to accept electronic signatures. We request comment on this proposal and on further steps that would facilitate the electronic filing of experimental applications.

Student Authorizations

10. Another area in which we believe we can encourage experimentation is that of student authorizations. Under current Subpart H, a student performing approved school-related projects can conduct these projects under relaxed operating requirements on specified frequency bands. Application can be made informally by letter, and approval is assured if the frequency and power limitations in the rules governing student authorizations are satisfied and the letter

[6] Due to the amount of reordering of the Part 5 rules, we propose to renumber the sections. For example, existing Sections 5.55(a) and (b) would be consolidated into proposed Section 5.59(a).

contains a signed statement from an authorized school official. Subpart H provides a safe harbor for student experimentation; however, we believe that additional student experimentation would take place if our rules permitted licenses to be issued to schools, as well as to individual students. Further, we are concerned that some of our rules are unnecessary and may deter students from requesting experimental authorizations.

11. Accordingly, we propose the following changes: First, we propose to authorize the issuance of experimental licenses to schools, as well as to individual students. We believe that if there is an ongoing experimental radio program at a school, students would be more likely to become involved than if they are required to apply for an individual license. Second, we propose to remove the current restriction that students be required to contact the local FCC field office in advance of scheduled operations. Our experience indicates that few interference problems arise from properly-supervised student experimentation, and we therefore believe this restriction to be unnecessary. Third, we propose to modify the frequency bands used for student authorizations. The 2483.5-2500 MHz band is part of the currently authorized 2450-2500 MHz band that is used for student experimental use, but the 2483.5-2500 MHz band is no longer normally assigned for experimental use of any kind because of the need to protect satellite allocations in that band.[7] Therefore, we propose to delete the 2483.5-2500 MHz band from the set of frequencies designated for student authorizations, and replace it with two bands that will provide far greater bandwidth. Specifically, we propose to provide the new bands 2402-2450 MHz[8] and 10.00-10.50 GHz for such use. The 2402-2417 MHz band is currently used on a primary basis by the Amateur Radio Service; the 2417-2450 MHz band is currently used on a secondary basis by the Radiolocation Service and the Amateur Radio Service; and the 10.00-10.50 GHz band is currently used on a primary basis by the Radiolocation Service and on a secondary basis by the Amateur Radio Service. Also, Industrial, Scientific, and Medical equipment is authorized to use the frequency 2450 MHz, plus or minus 50 MHz. We request comment on whether student experiments can be accommodated in the 2402-2450 MHz and 10.00-10.50 GHz bands without causing harmful interference to existing users.

12. Additionally, we request comment on whether the 5725-5825 MHz band should be made available for student authorizations. The 5725-5825 MHz band is currently used on a primary basis by the Radiolocation Service and on a secondary basis by the Amateur Radio Service. Also, Industrial, Scientific, and Medical equipment is authorized to use the frequency 5800 MHz, plus or minus 75 MHz. The 5725-5825 MHz band would provide an additional option for student experimentation; however, we note that the band is currently under

[7] The band is allocated for radiodetermination-satellite and mobile-satellite use; *see* 47 C.F.R. § 2.106.

[8] This contiguous spectrum immediately adjoins the 2450-2483.5 MHz band already available, creating a new band of 2402-2483.5 MHz.

consideration for unlicensed National Information Infrastructure (U-NII) devices, which are intended to provide wireless wideband networking options to the public including schools, libraries, and health care facilities.[9] If these U-NII devices achieve a high level of deployment in schools, there could eventually be a conflict between U-NII and student use of this band.

13. Fourth, we propose one minor change to our technical standards governing student authorizations. Specifically, we propose to remove the reference to 'dc plate power' in Section 5.405 and replace it with the more conventional requirement of 'effective isotropic radiated power' (EIRP) of 4 watts. However, we request comment on whether this power level would be appropriate, given the distances over which student experimenters typically would seek to communicate. We note that choosing an appropriate power level represents a balance between providing adequate coverage and increased potential for harmful interference to other services. Further, there may be concerns about excessive radiation levels. Therefore, we believe it essential that student experimenters and their advisors be familiar with our environmental rules set forth in Section 1.1307(b),[10] so that they may avoid exposure to harmful levels of radiation.

14. The changes that we are proposing would result in permissible student authorizations in the 27.23-27.28 MHz, 460-461 MHz, 462.525-467.475 MHz, 2402-2483.5 MHz, and 10.00-10.50 GHz bands, with the possible additional use of the 5725-5825 MHz band. The new set of bands would afford students a diverse range in which to conduct experiments, encompassing the High Frequency to the near millimeter wave spectrum region. We request comment on the proposed changes for student authorizations shown in Appendix A and on ways the rules could be further revised to make it easier for students to experiment with radio, while avoiding interference to allocated services. Additionally, we request comment on removing the current restriction on elementary school students performing experiments.[11] We believe that many such students who routinely use computers may also desire to experiment with radio technology, and might productively do so under appropriate school supervision. However, we request comment about the level of supervision and the knowledge of radiofrequency emissions that may be required to adequately supervise elementary school-age children.[12]

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[9] *See Notice of Proposed Rule Making*, ET Docket No. 96-102, 11 FCC Rcd 7205 (1996).

[10] 47 C.F.R. § 1.1307(b).

[11] Section 5.401 of our rules, 47 C.F.R. § 5.401, states that eligibility is limited "to students of seventh grade or higher level."

[12] We note that section 5.402(c) of our rules, 47 C.F.R. § 5.402(c), which we propose to recodify as 47 C.F.R. § 5.89(a), states that a student application must include a signed statement from the principal of the school or a faculty member, and must indicate who will supervise the experiment.

Temporary Experiments

15. STAs permit licensees to operate a specific piece of radio equipment for a short period of time. STAs often are used as a means to accommodate short-term experiments or projects; for example, a manufacturer desiring to demonstrate its products at a trade show may need an authorization only for the duration of the show. Currently, Sections 5.53(e)(2) and 5.56 of our rules require that an applicant for an STA already have an experimental license prior to receiving an STA. However, it has been our experience that in many instances entities that have requirements for an STA do not have an experimental license and that the need for an STA is independent of the need for such a license. Accordingly, we believe that our current rules discourage some entities from obtaining STAs. Further, our current rules do not contemplate expedited processing of STA applications, even though in some circumstances the need for an STA may arise unexpectedly. Therefore, we propose to modify existing Sections 5.53(e)(2) and 5.56 to remove the requirement that an applicant have an experimental license before applying for an STA, and further propose to modify Section 5.56 to include a provision for preferential processing of STA applications in cases in which an applicant sets forth compelling reasons why such an authorization must be granted expeditiously.[13]

16. Additionally, we note that there is some confusion as to the information required of STA applicants by Section 5.56(b) of our rules. This confusion has resulted in incomplete and inaccurate applications, requiring our staff to contact applicants to request additional information or to inform applicants that their applications must be re-filed. Therefore, we propose to amend existing Section 5.56(b) to specify more clearly the information needed in an application for STA, as shown in Appendix A. We request comment on the proposed amendments.

B. Ensuring that Experimental Licenses Do Not Result in Abuse of our Processes

17. During the last several years, a number of parties have obtained experimental licenses in order to undertake market studies of new services. In 1983, when we last reviewed our experimental rules, we believed that limited market experiments would provide us with significant useful information about the viability of new products in the marketplace. While this has proven to be the case in a number of instances, in other instances our processes have been abused by companies attempting to establish commercial businesses under the guise of experimental licenses. A recent example of this occurred with respect to the Multichannel Multipoint

[13] We note that Section 309 of the Communications Act states that the Commission shall determine whether the public interest, convenience, and necessity will be served by the grant of an application and that, in general, no application shall be granted prior to a 30 day public notice period of the acceptance by the Commission of the filing of such an application. However, this public notice period does not apply to non-broadcast STAs that do not exceed 30 days in cases in which no application for regular service is contemplated or that do not exceed 60 days in cases in which application for regular service is to be filed.

Distribution Service (MMDS). Several companies obtained "experimental" MMDS licenses with the apparent intent of trying to establish businesses without having to obtain or pay for non-experimental MMDS licenses. We re-emphasize that the purpose of limited market studies is to obtain information about the viability of new products in the marketplace, and not to circumvent our normal licensing processes. Accordingly, we propose that as a condition of granting such authorizations, licensees must limit the size and scope of each study. We shall determine the appropriate limits for market studies on a case-by-case basis and terminate any such study that exceeds these limits.[14] An applicant desiring to perform a limited market study would be expected to submit a narrative describing in detail the proposed study and its objectives.[15]

18. We are also concerned that some licensees have in the past used STAs as substitutes for experimental licenses. While STAs are granted for a period of no more than six months, some licensees have repeatedly sought to extend the same STA. This process has been wasteful of our resources. We realize that unforeseen delays can in some instances cause a planned short term experimental project to exceed six months, but we believe that some action is necessary in order to reduce the administrative and paperwork burden and to prevent abuse of our STA process. Accordingly, we propose to add language to our rules stating that in the absence of extenuating circumstances no extensions of STAs will be granted.[16]

C. Elimination of Unnecessary and Burdensome Experimental Regulations

Notification of Field Offices

19. Existing Sections 5.65, 5.66, 5.159, and 5.205 of our rules require experimental licensees to notify our Compliance and Information Bureau field offices of experimental operations in the applicable CIB region. These notification requirements were intended to assist us in investigating any instances of reported interference. However, it has been our experience that experimental operations have rarely resulted in interference complaints. Further, improvements in our experimental license database have made it easier for our staff to identify the cause of any interference problem that may arise. Finally, in cases in which there is a

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[14] Section 5.68 of our rules, 47 C.F.R. § 5.68, states that an experimental license "is subject to change or cancellation by the Commission at any time without hearing if in its discretion the need for such action arises."

[15] We note that in 1992, we specifically addressed the issue of possible abuse of experimental satellite licenses; *see Policy Statement*, 7 FCC Rcd 4586 (1992). In the *Policy Statement*, we stated: "[W]e are aware that by its very nature, building and launching a satellite is costly and, as in the case of any costly experiment, we do not wish to create an expectation that sizeable investments in an experiment mandate any particular course of action by the Commission in future proceedings. Part 5 procedures are not a substitute for the normal Commission licensing process."

[16] *See* Appendix A, proposed section 5.61(b).

reasonable chance of interference, we can place a condition on the license requiring that the licensee notify our Experimental Licensing Branch (ELB) prior to commencement of the operation. Accordingly, we believe that the existing notification requirements are unnecessary and propose to delete them. However, we request comment on this proposal and whether the removal of these requirements could result in the potential for increased interference from experimental operations.

Construction Permits and License Expirations

20. Existing Sections 5.3, 5.55(a), 5.55(b), and 5.163(c) all mention the issuance of construction permits under the ERS. However, for a number of years we have accepted a combined application for construction permit and license to operate an experimental station and have issued only one instrument of authority for the ERS. As a matter of administrative convenience and clarification, we propose to remove all references to obtaining a construction permit for experimental authorizations. Further, we propose to delete existing Section 5.63(c) of the rules, which now specifies that the expiration dates of experimental licenses will be distributed over the twelve calendar months, in accordance with the alphabetical distribution of the names of the licensees. According to this provision, an initial license would be granted for a period of 18 to 30 months, depending on the date of grant and the alphabetical position of the name of the licensee. This rule was originally adopted to facilitate the renewal process. However, our experience has been that the constant flow of applications results in an acceptable distribution of license applications, and for several years it has been our standard operating practice to issue a license for a two-year period from the date of grant and to act on any renewal requests upon expiration of this period. Implementation of a 5-year experimental license also will substantially facilitate the renewal process. Accordingly, we propose to delete existing Section 5.63(c).

Procedures

21. Existing Section 5.58 provides that if the ELB grants an application with conditions or restrictions other than those requested by the applicant ("partial grant"), the applicant has 30 days to challenge the grant. Upon receipt of such a challenge, we would vacate the grant and arrange a hearing for the application. In practice, however, an oral evidentiary hearing has rarely if ever been required because necessary conditions and limitations on the proposed experiment have been worked out by coordination between the applicant and our staff. Moreover, we believe that such coordination, in conjunction with paper submissions, would usually be the most efficient and appropriate means of resolving any problems an applicant may have with a partial grant. For example, resolution of the matters at issue normally does not require the presentation of oral testimony and cross examination. Accordingly, as a general matter, we propose to use these procedures to resolve experimental licensing problems, and request comment on this proposal.

D. Protection of Public Safety Frequencies

22. Protection of public safety radio frequencies from harmful interference is one of our paramount concerns. Accordingly, our staff counsels applicants for experimental licenses to avoid public safety frequencies unless their experiments are of a public safety nature, and we do not normally grant licenses for experiments on public safety frequencies. We propose to add the following language to Part 5 in order to make this policy explicit, and request comment on the proposed language:

> Applicants in the Experimental Radio Service must avoid public safety frequencies except when performing experiments of a public safety nature. Public safety frequencies are identified in Subpart B (Public Safety Radio Services) and Subpart C (Special Emergency Radio Service) of Part 90 of the Commission's rules. In addition, Subpart S of Part 90 contains rules for the assignment of frequencies that may be used by Public Safety Radio Services in the 806-824 MHz and 851-869 MHz bands. However, if operation on these frequencies is deemed essential, the applicant may apply for frequency bands that include public safety frequencies. The resulting experimental license may be granted, but the authorization will be conditioned to require coordination between the experimental licensee and the appropriate frequency coordinator and/or all of the public safety licensees in its area of intended operation.

E. Reorganization of the Regulatory Structure

General

23. We propose to reorganize Part 5 by consolidating six current subparts into three and reordering rules sections as shown in Appendix A. This will provide a more logical flow of the regulations and will allow us to remove redundancies between the subparts. For example, we propose to move the section "scope of service" to the front of the ERS rules and the section "eligibility of license" to the front of Subpart B, "Applications and Licenses," so that the public can more easily determine if Part 5 is the appropriate venue to accommodate a proposed operation.

24. Further, we propose to eliminate or consolidate certain rules sections. For example, we believe that sections pertaining to "operator requirements," "operations during an emergency," "notice of violation," "content of station records," and "form of station records" are redundant, and so propose to eliminate them. Additionally, we propose to combine the "general citizenship requirements" section with the "eligibility of license" section, as well as the "policy governing the assignment of frequencies" and "frequencies for the Experimental Radio Service" sections. Finally, we propose to make a number of minor changes to correct editorial errors, to accommodate reordering of the provisions in Part 5, to renumber Part 5 sections, and to replace

awkward or obsolete language. These and other proposed changes are set forth in Appendix A. We request comment on this proposed reorganization of Part 5, as well as on two additional proposals detailed below.

Wildlife and ocean buoy tracking operations

25. Currently, Section 5.108 governs wildlife and ocean buoy tracking operations in the 40.66-40.70 MHz and 216-220 MHz bands for the tracking of, and telemetry of scientific data from, such operations. These operations were originally placed under Part 5 because there was no other appropriate rule section to accommodate them. Recently, however, the Commission has established the Location and Monitoring Service under Part 90,[17] which provides for regular licensing of radio tracking functions. Additionally, the Commission recently established under Part 90 the Low Power Radio Service in the 216-217 MHz band that includes, among other things, tracking of stolen goods.[18] Accordingly, we believe that wildlife and ocean buoy tracking operations would now be more appropriately governed as Part 90 services, and we so propose herein to recategorize them. However, we note that Part 90 has more specific eligibility requirements than Part 5. While we do not believe that transferring wildlife and ocean buoy tracking operations would create a situation where an entity qualified under Part 5 would be ineligible under Part 90, we request comment on this issue. We further note that Part 90 already contains provisions for wildlife tracking with equipment technical standards that were adopted in 1982, and which differ from the proposed technical standards. Accordingly, we request comment on whether there should be a single set of technical standards, and if so, what they should be.

Broadcasting Services

26. Finally, the ELB has received a number of applications for use of broadcast frequencies by experimental operations of a broadcast nature. Currently, such experiments are accommodated under our Auxiliary Broadcasting rules, Part 74, and not Part 5.[19] We believe that a consolidation of all experimental rule subparts into Part 5 may be desirable to eliminate

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[17] *See* PR Docket No. 93-61; *Report and Order*, 10 FCC Rcd 4695 (1995) and *Second Erratum*, Mimeo No. 52499, released March 1, 1995.

[18] *See* WT Docket No. 95-56; *Notice of Proposed Rule Making*, 10 FCC Rcd 5428 (1995) and *Report and Order*, FCC 96-315, released August 2, 1996.

[19] Subpart A of Part 74 governs authorizations for experimental broadcast and broadcast auxiliary stations. Regulations differ in a number of respects from those in Part 5. For example, experimental broadcast licenses are granted for a period of only one year. In addition, Section 73.1510 contains provisions for broadcast licensees to obtain experimental authority to conduct technical experimentation directed toward the improvement of the technical phases of operation and service.

redundancy, any confusion created by having separate bodies of experimental rules, and to increase the efficiency of the Commission's processes. Accordingly, we solicit comment on transferring Subpart A of Part 74 -- Experimental Broadcast Operations -- to Part 5.[20] We request comment on whether such a change is desirable and, if so, on whether Subpart A of Part 74 should be made a separate subpart of Part 5 or fully integrated with the proposed three subparts of Part 5 discussed above.

PROCEDURAL INFORMATION

27. Regulatory Flexibility Analysis. The analysis pursuant to the Regulatory Flexibility Act of 1980, 5 U.S.C. Section 608, is contained in Appendix B.

28. Ex Parte Presentation. This is a non-restricted notice and comment rule making proceeding. Ex parte presentations are permitted, provided they are disclosed as provided in Commission rules. See generally 47 C.F.R. Sections 1.1202, 1.1203, and 1.1206(a).

29. Authority. This action is taken pursuant to Sections 4(i), 303(c), 303(f), 303(g) and 303 (r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 303(c), 303(f), 303(g) and 303(r).

30. Comment. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, interested parties may file comments on or before **February 10, 1997**, and reply comments on or before **February 28, 1997**. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding. To file formally in this proceeding, participants must file an original and four copies of all comments, reply comments, and supporting comments. If participants want each Commissioner to receive a personal copy of their comments, an original plus nine comments must be filed. Comments and reply comments should be sent to Office of the Secretary, Federal Communications Commission, Washington, DC 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center (Room 239) of the Federal Communications Commission, 1919 M Street, N.W., Washington, DC 20554.

31. Written comments by the public on the proposed and/or modified information collections are due **February 10, 1997**. Written comments must be submitted by the Office of Management and Budget ("OMB") on the proposed and/or modified information collections on or before 60 days after date of publication in the Federal Register. In addition to filing comments with the Secretary, a copy of any comments on the information collections

[20] We are not contemplating in this proceeding any change to the experimental broadcast provisions in Section 73.1510 of our rules.

contained herein should be submitted to Dorothy Conway, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, DC 20554, or via the Internet to dconway@fcc.gov and to Timothy Fain, OMB Desk Officer, 10236 NEOB, 725 - 17th Street, N.W., Washington, DC 20503 or via the Internet to fain_t@al.eop.gov.

32. Additional Information. For further information concerning this rule making proceeding contact Thomas Derenge at (202) 418-2451 or Rodney Small at (202) 418-2452, Internet: tderenge@fcc.gov or rsmall@fcc.gov, Office of Engineering and Technology, Federal Communications Commission, Washington, DC 20554.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

Appendix A: Proposed Rules

A. Part 5 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

PART 5 -- EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)

1. The authority citation for Part 5 is revised to read as follows:

AUTHORITY: Secs. 4, 302, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 302, 303. Interpret or apply sec. 301, 48 Stat. 1081, as amended; 47 U.S.C. 301.

2. The entire Part 5 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

PART 5--EXPERIMENTAL RADIO SERVICES (OTHER THAN BROADCAST)

Subpart A--General

Section

Subpart B--Applications and Licenses

Subpart C--Technical Standards and Operating Requirements

Subpart A--General

Section 5.1 Basis.

(a) The rules following in this part are promulgated pursuant to the provisions of Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations.

(b) The purpose of this part is to prescribe the manner in which parts of the radio frequency spectrum may be made available for experimentation as defined and provided for in this part.

Section 5.3 Scope of service.

Stations operating in the Experimental Radio Service will be permitted to conduct the following type of operations:

(a) Experimentations in scientific or technical radio research.

(b) Experimentations under contractual agreement with the United States Government, or for export purposes.

(c) Communications essential to a research project.

(d) Technical demonstrations of equipment or techniques.

(e) Field strength surveys by persons not eligible for authorization in any other service.

(f) Demonstration of equipment to prospective purchasers by persons engaged in the business of selling radio equipment.

(g) Testing of equipment in connection with production or type approval of such equipment.

(h) Development of radio technique, equipment or engineering data not related to an existing or proposed service, including field or factory testing or calibration of equipment.

(i) Development of radio technique, equipment, operational data or engineering data related to an existing or proposed radio service.

(j) Limited market studies.

(k) Types of experiments that are not specifically covered under paragraphs (a) through (j) of this section will be considered upon demonstration of need for such additional types of experiments.

Section 5.5 Definition of terms.

For the purpose of this part, the following definitions shall be applicable. For other definitions, refer to Part 2 of this chapter (Frequency Allocations and Radio Treaty Matters; General Rules and Regulations).

Authorized frequency. The frequency assigned to a station by the Commission and specified in the instrument of authorization.

Authorized power. The power assigned to a radio station by the Commission and specified in the instrument of authorization.

Experimental Radio Service. A service in which radio waves are employed for purposes of experimentation in the radio art or for purposes of providing essential communications for research projects that could not be conducted without the benefit of such communications.

Experimental Station. A station utilizing radio waves in experiments with a view to the development of science or technique.

Fixed service. A radiocommunication service between specified fixed points.

Fixed station. A station in the fixed service.

Harmful interference. Any radiation or induction that endangers the functioning of a radionavigation or safety service, or obstructs or repeatedly interrupts a radio service operating in accordance with the Table of Frequency Allocations and other provisions of Part 2 of this chapter.

Landing area. As defined by 49 U.S.C. Section § 40102(a)(28) of the Civil Aeronautics Act of 1938, as amended, any locality, either of land or water, including airdromes and

intermediate landing fields, that is used, or intended to be used, for the landing and take-off of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

Land station. A station in the mobile service not intended for operation while in motion.

Mobile service. A radiocommunication service between mobile and land stations, or between mobile stations.

Mobile station. A station in a mobile service intended to be used while in motion or during halts at unspecified points.

Person. An individual, partnership, association, joint stock company, trust, or corporation.

Public correspondence. Any telecommunication that offices and stations, by reason of their being at the disposal of the public, must accept for transmission.

Radio service. An administrative subdivision of the field of radiocommunication. In an engineering sense, the subdivisions may be made according to the method of operation, as, for example, mobile service and fixed service. In a regulatory sense, the subdivisions may be descriptive of particular groups of licensees, as, for example, the groups of persons licensed under this part.

Station authorization. Any license or special temporary authorization issued by the Commission.

Subpart B--Applications and Licenses

Section 5.51 Eligibility of license.

(a) Authorizations for stations in the Experimental Radio Service will be issued only to persons qualified to conduct experimentation utilizing radio waves for scientific or technical operation data directly related to a use of radio not provided by existing rules; or for communications in connection with research projects when existing communications facilities are inadequate.

(b) Applicants eligible for authorizations in an established service, and seeking to develop operational data or techniques directed toward the improvement or extension of that service shall file applications and conduct such projects under the developmental rules of the established service.

(c) A station license shall not be granted to or held by a foreign government or a representative thereof.

Section 5.53 Station authorization required.

(a) No radio transmitter shall be operated in the Experimental Radio Service except under and in accordance with a proper station authorization granted by the Commission.

(b) Persons desiring to install and operate radio transmitting equipment under this part should first submit an application for a radio station license in accordance with § 5.59.

(c) If installation and/or operation of the equipment may significantly impact the environment, see § 1.1307 of this chapter, an environmental assessment as defined in § 1.1311 of this chapter must be submitted with the application.

Section 5.55 Filing of applications.

(a) To assure that necessary information is supplied in a consistent manner by all persons, standard forms are prescribed for use in connection with the majority of applications and reports submitted for Commission consideration. Standard numbered forms applicable to the Experimental Radio Service are discussed in § 5.59 and may be obtained by calling the FCC FORMS hotline, (202) 418-FORM. If no standard form is applicable, the informal application procedure outlined in § 5.59 (f) should be followed.

(b) Any application for radio station authorization and all correspondence relating thereto shall be submitted to the Commission's Office of Engineering and Technology, Washington, DC 20554. (Applications requiring fees as set forth in Part 1, Subpart G of this chapter must be filed in accordance with § 0.401(b) of the rules.)

(c) Each application for station authorization shall be specific and complete with regard to station location, proposed equipment, power, antenna height, and operating frequency; and other information required by the application form and this part.

(d) Applications involving operation at temporary locations: When an experimental program is to remain at a single location for less than six months, the location is considered to be temporary and the special temporary authorization procedure outlined in § 5.61 shall apply.

Section 5.57 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer or duly authorized employee, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible government entities, such as states and territories of the United States and political subdivisions thereof, the District of Columbia, and units of local government, including incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his/her absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his/her

knowledge), he/she shall separately set forth reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statements of fact need not be submitted under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, Title 18, Section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to Section 312(a)(1) of the Communications Act of 1934, as amended.

(e) "Signed," as used in this section, means an original handwritten signature; however, the Office of Engineering and Technology may allow signature by any symbol executed or adopted by the applicant with the intent that such symbol be a signature, including symbols formed by computer-generated electronic impulses.

Section 5.59 Forms to be used.

(a) *Application for experimental radio license.* Entities requesting an experimental authorization must submit FCC Form 442 (application). A single FCC Form 442 may be used for several radio components of an experimental program, however, unrelated experimental programs should be filed on separate applications.

(b) *Application for modification of experimental license.* An application for modification of experimental authorization shall be submitted on FCC Form 442. A blanket application may be submitted for modification of a group of authorizations of the same class as long as the scope of the modifications are specified in the application. The individual authorizations covered by such an application shall be clearly identified therein. However, application for modification to change location of an experimental authorization shall be filed as a separate application.

(c) *Application for renewal of experimental authorization.* Application for renewal of station license shall be submitted on FCC Form 405. A blanket application may be submitted for renewal of a group of station licenses in the same class in those cases in which the renewal requested is in exact accordance with the terms of the existing authorizations. The individual stations covered by such applications shall be clearly identified thereon. Unless otherwise directed by the Commission, each application for renewal of license shall be filed at least 60 days prior to the expiration date of the license to be renewed.

(d) *Application for consent to assign an experimental authorization.* Application on FCC Form 702 shall be submitted when the legal right to construct or to control the use and operation of a station is to be transferred as a result of a voluntary act (contract or other agreement) or an involuntary act (death or legal disability) of the grantee of a station authorization or by involuntary assignment of the physical property constituting the station under a court decree in bankruptcy proceedings, or other court order, or by operation of law in any other manner. Such application must be accompanied by the FCC Form 442 of which

only the certification need be signed by the proposed assignee. No other information is required to be submitted on this form.

(e) *Application for consent to transfer control of Corporation holding experimental authorization.* Application for consent to transfer control shall be submitted on FCC Form 703 whenever it is proposed to change the control of a corporation holding a station authorization.

(f) *Informal application.*

(1) An application not submitted on a standard form prescribed by the Commission is considered to be an informal application. Each informal application shall be submitted normally in letter form, and with the original signed in accordance with § 5.57. Each application shall be clear and complete within itself as to the facts presented and the action desired.

(2) An informal application for authority to operate transmitting equipment will be accepted only under the conditions set forth for special temporary authorizations in § 5.61.

Section 5.61 Procedure for obtaining a special temporary authorization.

(a) The Commission may issue a special temporary authorization under this part in cases in which a need is shown for operation of a station for six months or less, provided such operation is not in conflict with the Commission's rules. In cases in which an applicant sets forth compelling reasons why a special temporary authorization must be granted expeditiously, preference will be given to processing the application.

(b) Extensions of a special temporary authorization will be granted only in extenuating circumstances. To continue experimentation under normal circumstances, the holder of temporary authority should apply for a regular experimental license by filing an FCC Form 442 at least 60 days prior to the expiration of its temporary authorization.

(c) An application for special temporary authorization may be filed as an informal application in the manner prescribed by § 5.59(f) and shall contain the following information:

(1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant.

(2) Description of why an STA is needed.

(3) Description of the operation to be conducted and its purpose.

(4) Time and dates of proposed operation.

(5) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).

(6) Description of the location and geographical coordinates of the proposed operation. Indication of which coordinate datum (NAD-27 or NAD-83) applies.

(7) Equipment to be used, including name of manufacturer, model and number of units.

(8) Frequency(ies) desired.

(9) Maximum effective radiated power (ERP).

(10) Emission designator (see § 2.201) or describe emission (bandwidth, modulation,etc.)

(11) Overall height of antenna structure above the ground (if greater than 6 meters above the ground or an existing structure, see Part 17 of the Commission's rules concerning notification to the FAA).

Section 5.63 Supplementary statements required.

(a) Each applicant for an authorization in the Experimental Radio Service must enclose with the application a narrative statement describing in detail the program of research and experimentation proposed, the specific objectives sought to be accomplished; and how the program of experimentation has a reasonable promise of contribution to the development, extension, or expansion, or utilization of the radio art, or is along lines not already investigated. An applicant may request non-disclosure of proprietary information submitted under this part. These requests should follow the procedures for submission set forth in § 0.459 of this chapter.

(b) If the authorization is to be used for the purpose of fulfilling the requirements of a contract with an agency of the United States Government, the applicant shall submit a narrative statement describing the project, the name of the contracting agency, and the contract number.

(c) If the authorization is to be used for the sole purpose of developing equipment for exportation to be employed by stations under the jurisdiction of a foreign government, the applicant shall submit a narrative statement describing the project,the contract number, and the name of the foreign government concerned.

(d) The provisions of paragraph (a) of this section shall not be applicable to applications for an authorization in the Experimental Radio Service to be used for communications essential to a research project in which other means of communications are inadequate or not available. In such cases, applicants shall include as part of the application for an authorization the following:

(1) A description of the nature of the research project being conducted.

(2) A showing that communications facilities are necessary for the research project involved.

(3) A showing that existing communications facilities are inadequate or unavailable.

Section 5.65 Defective applications.

(a) Applications that are defective with respect to completeness of answers to required questions, execution or other matters of a purely formal character may not be received for filing by the Commission, and may be returned to the applicant with a brief statement as to the omissions.

(b) If an applicant is requested by the Commission to file any documents or information not included in the prescribed application form, a failure to comply with such request will constitute a defect in the application.

(c) Applications that are not in accordance with the Commission's rules, regulations, or other requirements will be considered defective unless accompanied either by: (1) a petition to amend any rule, regulation, or requirement with which the application is in conflict; or (2) a request of the applicant for waiver of, or an exception to, any rule, regulation, or requirement with which the application is in conflict. Such request shall show the nature of the waiver or exception desired and set forth the reasons in support thereof.

Section 5.67 Amendment or dismissal of applications.

(a) Any application may be amended or dismissed without prejudice upon request of the applicant prior to the time the application is granted. Each amendment to, or request for dismissal of an application shall be signed, authenticated, and submitted in the same manner and with the same number of copies as required for the original application. All subsequent correspondence or other material that the applicant desires to have incorporated as a part of an application already filed shall be submitted in the form of an amendment to the application.

(b) Failure to prosecute an application, or failure to respond to official correspondence or request for additional information, will be cause for dismissal. Such dismissal will be without prejudice.

Section 5.69 Partial grants.

In cases in which the Commission grants an application in part, or with any privileges, terms, or conditions other than those requested, or subject to any interference that may result to a station if designated application or applications are subsequently granted, the action of the Commission shall be considered as a grant of such application unless the applicant shall, within 30 days from the date on which such grant is made or from its effective date if a later date is specified, file with the Commission a written request rejecting the grant as made. Upon receipt of such request, the Commission will coordinate with the applicant in an attempt to resolve problems arising from the grant.

Section 5.71 License period.

(a) The regular license period for stations in the Experimental Radio Services is either 2 or 5 years. An applicant desiring to apply for a 5-year license must provide justification for its need for a license longer than for two years. A license may be renewed upon an adequate showing of need.

(b) A license will not be granted for a period longer than that which is required for completion of the experimental project. If such period is estimated to be less than 2 years, a statement to that effect by the applicant may facilitate grant of the application. See also § 5.69.

Section 5.73 Experimental report.

(a) Unless specifically stated as a condition of the authorization, licensees are not required to file a report on the results of the experimental program carried on under this subpart.

(b) The Commission may, as a condition of authorization, request the licensee to forward periodic reports in order to evaluate the progress of the experimental program.

(c) An applicant may request that the Commission withhold from the public certain reports and associated material and the Commission will do unless the public interest requires otherwise. These requests should follow the procedures for submission set forth in § 0.459 of this chapter.

Section 5.75 Number of licenses required.

An application for a station embracing widely divergent and unrelated experimentations will normally require a separate license for each experiment. However if the experiments are related, an applicant may apply for a blanket license encompassing the entire experimental program.

Section 5.77 Change in equipment.

(a) A change may be made in a licensed transmitter without specific authorization from the Commission provided that: (1) the change does not result in operation inconsistent with any term of the outstanding authorization for the station involved; and (2) a description of the change is incorporated in the next application for renewal or modification of license.

(b) Prior authorization from the Commission is required before the following antenna changes may be made at a station at a fixed location:

(1) Any change that will either increase the height of a structure supporting the radiating portion of the antenna or decrease the height of a lighted antenna structure.

(2) Any change in the location of an antenna when such relocation involves a change in the geographic coordinates of latitude or longitude by as much as one second, or when such relocation involves a change in street address.

Section 5.79 Transfer and assignment of station authorization.

A station authorization, the frequencies authorized to be used by the grantee of such authorization, and the rights therein granted by such authorization shall not be transferred, assigned, or in any manner either voluntarily or involuntarily disposed of, unless the Commission shall, after securing full information, decide that such a transfer is in the public interest and give its consent in writing. Requests for authority to transfer or assign a station authorization shall be submitted on the forms prescribed by § 5.59.

Section 5.81 Discontinuance of station operation.

In case of permanent discontinuance of operation of a fixed or land station in the Experimental Radio Service, or in case of permanent discontinuance of operation of all transmitter units listed in the license for a mobile station in the Experimental Radio Service, the licensee shall forward the station license to the Commission's Office of Engineering and Technology for cancellation.

Section 5.83 Cancellation provisions.

The applicant for a station in the Experimental Radio Services accepts the license with the express understanding: (a) that the authority to use the frequency or frequencies assigned is granted upon an experimental basis only and does not confer any right to conduct an activity of a continuing nature; and (b) that said grant is subject to change or cancellation by the Commission at any time without hearing if in its discretion the need for such action arises. However, a petition for reconsideration or application for review may be filed to such Commission action.

Section 5.85 Frequencies and policy governing their assignment.

(a) Stations operating in the Experimental Radio Service may be authorized to use any government or non-government frequency designated in the Table of Frequency Allocations set forth in Part 2 of this chapter, provided that the need for the frequency requested is fully justified by the applicant.

(b) Each frequency or band of frequencies available for assignment to stations in the Experimental Radio Service is available on a shared basis only, and will not be assigned for the exclusive use of any one applicant, and such use may also be restricted to one or more specified geographical areas. Not more than one frequency in a band of frequencies will normally be assigned for the use of a single applicant unless a showing is made demonstrating that need for the assignment of additional frequencies is essential to the proposed program of experimentation.

(c) Frequency assignments will be made only on the condition that harmful interference will not be caused to any station operating in accordance with the Table of Frequency Allocation of Part 2 of this chapter.

(d) Use of Public Safety Frequencies: Applicants in the Experimental Radio Service must avoid public safety frequencies except when performing experiments of a public safety nature. Public safety frequencies are identified in Subpart B (Public Safety Radio Services) and Subpart C (Special Emergency Radio Service) of Part 90 of the Commission's rules. In addition, Subpart S of Part 90 contains rules for the assignment of frequencies that may be used by Public Safety Radio Services in the 806-824 MHz and 851-869 MHz bands. However, if operation on these frequencies is deemed essential, the applicant may apply for

frequency bands that include public safety frequencies. The resulting experimental license may be granted, but the authorization will be conditioned to require coordination between the experimental licensee and the appropriate frequency coordinator and/or all of the public safety licensees in its intended area of operation.

(e) The Commission may, at its discretion, condition any experimental license or STA on the requirement that before commencing operation, the new licensee coordinate its proposed facility with other licensees that may receive interference as a result of the new licensee's operations.

(f) Protection of FCC monitoring stations:

(1) Applicants are advised to give consideration, prior to filing applications, to the need to protect FCC monitoring stations from harmful interference. Geographical coordinates of such stations are listed in § 0.121(c) of the Commission's Rules. Applications for stations (except mobile stations) that will produce on any frequency a direct wave fundamental field strength of greater than 10 mV/m in the authorized bandwidth of service (-65.8 dBW/m2 power flux density assuming a free space characteristic impedance of 120 ohms) at the referenced coordinates, may be examined to determine the extent of possible interference. Depending on the theoretical field strength value and existing root-sum-square or other ambient radio field signal levels at the indicated coordinates, a clause protecting the monitoring station may be added to the station authorization.

(2) In the event that calculated value of expected field strength exceeds 10 mV/m (- 65.8 dBW/m2) at the reference coordinates, or if there is any question whether field strength levels might exceed the threshold value, advance consultation with the FCC to discuss any protection necessary should be considered. Prospective applicants may communicate with the Compliance and Information Bureau, Federal Communications Commission, Washington, D.C. 20554.

(3) Advance consultation is suggested particularly for those applicants who have no reliable data that indicates whether the field strength or power flux density figure indicated would be exceeded by their proposed radio facilities (except mobile stations). In such instances, the following is a suggested guide for determining whether an applicant should coordinate:

(i) All stations within 2.4 kilometers (1.5 statute miles);

(ii) Stations within 4.8 kilometers (3 statute miles) with 50 watts or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station;

(iii) Stations within 16 kilometers (10 statute miles) with 1 kW or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station;

(iv) Stations within 80 kilometers (50 statute miles) with 25 kW or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station.

(4) Advance coordination for stations operating above 1000 MHz is recommended only where the proposed station is in the vicinity of a monitoring station designated as a satellite monitoring facility in § 0.121(c) of the Commission's Rules and also meets the criteria outlined in paragraphs (d) (2) and (3) of this section.

(5) The Commission will not screen applications to determine whether advance consultation has taken place. However, applicants are advised that such consultation can avoid objections from the Commission.

Section 5.87 Frequencies for field strength surveys or equipment demonstrations.

(a) Authorizations issued under §§ 5.3 (e) and (f) will normally not have specific frequencies designated in a station license. Prior to the commencement of a survey or demonstration, the licensee will request a specific frequency assignment and submit the following information:

(1) Time, date and duration of survey.
(2) Frequency to be used.
(3) Location of transmitter and geographical area to be covered.
(4) Purpose of survey.
(5) Method and equipment to be used.
(6) Names and addresses of persons for whom the survey is conducted.

Section 5.89 School and student authorizations.

The Commission may issue an authorization to schools or students for the purpose of presenting experiments or technical demonstrations for school or school approved projects that require the use of radio for a limited period of time. Such authorizations may be granted at the discretion of the Commission.

(a) An application for a school or student authorization may be filed in letter form and must comply with the provisions of § 5.63, except where specified below. The application must be accompanied by a signed statement from a member of faculty of the school, on appropriate letterhead, indicating the person under whose general supervision the project will be conducted. In the case of student authorizations, the letter must state that the project has the approval of the school

(b) Frequencies in the following bands are available for assignment in authorizations issued under this section:

27.23-27.28 MHz.
460-461 MHz.
462.525-467.475 MHz.
2402-2483.5 MHz.
10.00-10.50 GHz.

(c) Operations under this section shall not exceed a peak envelope output power of 4 watts. The Commission may authorize a greater power if a satisfactory showing is made that

such greater power is necessary and that appropriate measures will be taken to prevent interference.

(d) The frequency of operation must be measured or checked prior to each time of operation.

(e) Subject to the provisions of (b), (c) and (d), the provisions in Subpart C of this part are waived insofar as such provisions require a station authorized under this section to observe the technical and operating restrictions set forth therein.

(f) The licensee holding an authorization issued under this section shall maintain a record of operation containing the following information:

(1) A brief description of the experimentation being conducted.

(2) The date and time of each period of operation.

(3) The frequency of operation as measured or checked at the beginning of each period of operation.

(g) The record of operation shall be retained for one month after the termination of the authorization.

Section 5.91 Notification to the National Radio Astronomy Observatory.

In order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia, any applicant for a station authorization other than mobile, temporary base, temporary fixed, Personal Radio, Civil Air Patrol, or Amateur seeking a station license for a new station, or a construction permit to construct a new station or to modify an existing station license in a manner that would change either the frequency, power, antenna height or directivity, or location of such a station within the area bounded by 39 deg. 15' N on the north, 78 deg. 30' W on the east, 37 deg. 30' N on the south and 80 deg. 30' W on the west shall, at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, P.O. Box NZ2, Green Bank, West Virginia, 24944, in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, frequency, type of emission, and power. In addition, the applicant shall indicate in its application to the Commission the date notification was made to the Observatory. After receipt of such applications, the Commission will allow a period of twenty (20) days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the twenty-day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

Section 5.93 Limited market studies.

Unless otherwise stated in the instrument of authorization, licenses granted for the purpose of limited market studies pursuant to § 5.3(j) are subject to the following conditions:

(a) All transmitting and/or receiving equipment used in the study shall be owned by the licensee.

(b) The licensee is responsible for informing anyone participating in the experiment that the service or device is granted under an experimental authorization and is strictly temporary.

(c) The size and scope of the experiment are subject to limitations as the Commission shall establish on a case-by-case basis. If the Commission subsequently determines that a market study is not so limited, the study shall be immediately terminated.

Section 5.95 Experiments performed in conjunction with pioneer's preference applications.

An applicant for a pioneer's preference pursuant to § 1.402 of this chapter may file an experimental license application for a limited geographical area, generally including no more than one Metropolitan Statistical Area. In order to be eligible for a preference at the time of a report and order in a proceeding addressing a new service or technology, the experimental applicant must demonstrate the technical feasibility of its proposal by summarizing its experimental results in its preference application, unless it instead submits an acceptable showing of technical feasibility. If a pioneer's preference applicant wishes the Commission to consider in conjunction with the application experimental material filed subsequent to the application, the applicant must summarize this material and submit the summary to the Commission prior to the Sunshine Notice announcing that a report and order pertaining to the new service or technology will be considered by the Commission at a public meeting, or--if a report and order is considered by notation--prior to submission of the report and order to the Commission for vote. All experimental material must be summarized and its relevance to the pioneer's preference application explained in order for it to be considered by the Commission.

Subpart C--Technical Standards and Operating Requirements

Section 5.101 Frequency stability.

An applicant must propose to use a frequency tolerance that would confine emissions within the band of operation, unless permission is granted to use a greater frequency tolerance. Equipment is presumed to operate over the temperature range -20 to +50 degrees celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

Section 5.103 Types of emission.

Stations in the Experimental Radio Service may be authorized to use any of the classifications of emissions covered in Part 2 of this chapter.

Section 5.105 Authorized bandwidth.

Each authorization issued to a station operating in this service will show, as the prefix to the emission classification, a figure specifying the maximum necessary bandwidth in kilohertz for the emission used. The authorized bandwidth is considered to be the occupied or necessary bandwidth, whichever is greater. This bandwidth should be determined in accordance with
§ 2.202 of Part 2 of this chapter.

Section 5.107 Transmitter control requirements.

Each licensee shall be responsible for maintaining control of the transmitter authorized under its station authorization. This includes both ensuring that transmissions are in conformance with the operating characteristics prescribed in the station authorization and that the station is operated only by persons duly authorized by the licensee.

Section 5.109 Antenna and tower requirements.

(a) Applicants with fixed stations that use antennas that exceed 6 meters in height above the ground level or more than 6 meters in height above an existing building must comply with the requirements of Part 17 of this chapter.

(b) The licensee of any radio station that has an antenna structure required to be painted and illuminated pursuant to the provisions of Section 303(q) of the Communications Act of 1934, as amended, and Part 17 of this chapter, shall perform the inspections and maintain the tower marking and lighting, and associated control equipment, in accordance with the requirements of §§ 17.43 through 17.57 of this chapter.

Section 5.111 General limitations on use.

(a) The following transmission limitations are applicable to all classes of stations in the Experimental Radio Service:

(1) Stations may make only such transmissions as are necessary and directly related to the conduct of the licensee's stated program of experimentation as specified in the application for license and the related station instrument of authorization, and as governed by the provisions of the rules and regulations contained in this part. All transmissions shall be limited to the minimum practical transmission time.

(2) When transmitting, the licensee must use every precaution to insure that the radio frequency energy emitted will not cause harmful interference to the services carried on by stations operating in accordance with the Table of Frequency Allocations of Part 2 of this chapter and, further, that the power radiated is reduced to the lowest practical value consistent with the program of experimentation for which the station authorization is granted. If harmful interference to an established radio service develops, the licensee shall cease transmissions and such transmissions shall not be resumed until it is certain that harmful interference will not be caused.

(b) If experimental stations are to be used to retransmit signals of any other station or to render any communications service to third parties, a full disclosure of this must be made in the application for license.

Section 5.113 Adherence to program of research.

(a) The program of experimentation as stated by an applicant in its application for license or in the station instrument of authorization, shall be substantially adhered to unless the licensee is authorized to do otherwise by the Commission.

(b) Where some phases of the experimental program are not covered by the general rules of the Commission or by the rules of this part, the Commission may specify supplemental or additional requirements or conditions in each case as deemed necessary in the public interest, convenience, or necessity.

Section 5.115 Station identification.

Each class of station in the experimental services shall, unless specifically exempted by the terms of the station authorization, transmit its assigned call sign at the end of each complete transmission: Provided, however, that the transmission of the call sign at the end of each transmission is not required for projects requiring continuous, frequent, or extended use of the transmitting apparatus, if, during such periods and in connection with such use, the call sign is transmitted at least once every thirty minutes. The station identification shall be transmitted in clear voice or Morse code. All digital encoding and digital modulation shall be disabled during station identification.

Section 5.117 Suspension of transmission required.

The radiations of the transmitter shall be suspended immediately upon detection or notification of a deviation from the technical requirements of the station authorization until such deviation is corrected, except for transmissions concerning the immediate safety of life or property, in which case the transmissions shall be suspended as soon as the emergency is terminated.

Section 5.119 Posting station licenses.

The current original authorization for each station shall be retained on the premises as a permanent part of the station records but need not be posted.

Section 5.121 Retention of station records.

Records required to be kept by this part shall be retained for a period of at least one year.

Section 5.123 Inspection of stations.

All stations and records of stations in the Experimental Radio Service shall be made available for inspection at any time while the station is in operation or shall be made available for inspection upon reasonable request of an authorized representative of the Commission.

Section 5.125 Authorized points of communication.

Generally, stations in the Experimental Radio Service may communicate only with other stations licensed in the Experimental Radio Service. Nevertheless, upon a satisfactory showing that the proposed communications are essential to the conduct of the research project, authority may be granted to communicate with stations in other services and U.S. Government stations.

B. Part 90 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

PART 90 - PRIVATE LAND MOBILE RADIO SERVICES

1. The authority citation for Part 90 continues to read as follows:

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, and 332, unless otherwise noted.

2. Section 90.203 is proposed to be amended by revising paragraph (a) and by adding a new paragraph (k), to read as follows:

Section 90.203 Type acceptance required.

(a) Except as specified in paragraphs (b) and (k) of this section, each transmitter utilized for operation under this part and each transmitter marketed as set forth in § 2.803 of Part 2 of

this chapter must be of a type that is included in the Commission's current Radio Equipment List as type accepted for use under this part; or, be of a type that has been type accepted by the Commission for use under this part in accordance with the procedures in paragraph (a)(2) of this section.

* * * * *

(k) Ocean buoy and wildlife tracking transmitters operating in the band 40.66-40.70 MHz or 216-220 MHz under the provisions of Section 90.248 of this part shall be authorized under the notification procedure pursuant to Subpart J of Part 2 of this chapter.

3. A new Section 90.248 is proposed to be added, to read as follows:

Section 90.248 Wildlife and ocean buoy tracking.

(a) The frequency bands 40.66-40.70 MHz and 216-220 MHz may be used for the tracking of, and the telemetry of scientific data from, ocean buoys and animal wildlife.

(b) Transmitters operating under the provisions of this section are not subject to the technical standards contained in §§ 90.205-90.217. In lieu thereof, the transmitters shall comply with the provisions in this section.

(c) Classes of emission are limited to N0N, A1A, A2A, A2B, F1B, J2B, F2A, F2B, and/or F8E.

(d) The authorized bandwidth shall not exceed 1 kHz.

(e) Frequency stability:

(1) For transmitters operating in the 40.66-40.70 MHz frequency band, the frequency stability shall be sufficient to ensure that, at the carrier frequency employed, the sum of the authorized bandwidth plus the bandwidth required for frequency stability are confined within this band.

(2) In the 216-220 MHz frequency band, transmitters shall employ a minimum frequency stability of 0.005 percent (50 parts per million). The carrier frequency shall be selected to ensure that the sum of the authorized bandwidth plus the bandwidth required for frequency stability are confined within this band.

(3) The frequency stability standards shall be met over a temperature range of -30° to +50° centigrade at normal supply voltage and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of +20° C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(f) The maximum peak transmitter output (carrier) power shall not exceed 1 milliwatt for airborne wildlife applications, 10 milliwatts for terrestrial wildlife applications or 100 milliwatts for ocean buoys.

(g) Emissions appearing outside of the authorized bandwidth shall be attenuated below the carrier power by at least 26 dB, following the procedures specified in § 90.210(m).

4. Section 90.259 is proposed to be amended, to read as follows:

Section 90.259 Assignment and use of frequencies in the bands 216-220 MHz and 1427-1435 MHz.

Frequencies in the bands 216-220 MHz and 1427-1435 MHz may be assigned to applicants under this part provided the bands are listed in the individual radio service under which they establish eligibility. Use of these bands is limited to telemetering purposes, except that the 216-220 MHz band may also be used for wildlife and ocean buoy tracking operations pursuant to § 90.248. All operation is secondary to Federal Government operations, and operation in the 216-220 MHz band is also secondary to the maritime mobile service and operation in the 1427-1429 MHz band is also secondary to the space operation service (earth-to-space). Base stations authorized in these bands shall be used to perform telecommand functions with associated mobile telemetering stations. Base stations may also command actions by the vehicle itself, but will not be authorized solely to perform this function. Airborne use will not be authorized. Each application will be coordinated with the Federal Government by the Federal Communications Commission and is subject to such technical and operational limitations as may be imposed by the government. Each application should include precise information concerning emission characteristics, transmitter frequency deviation, output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.

APPENDIX B: INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by Section 603 of the Regulatory Flexibility Act,[21] the Commission has prepared an Initial Flexibility Analysis (IRFA) of the expected significant economic impact on small entities by the policies and rules proposed in this Notice of Proposed Rule Making (Notice) to "Amendment of Part 5 of the Commission's Rules to Revise the Experimental Radio Service Regulations." Written public comments are requested on the IRFA. Comments must be identified in response to the IRFA and must be filed by the deadlines for comments on the Notice provided in paragraph 26. The Secretary shall send a copy of this Notice, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act.

Need for and Objectives of the Proposed Rule: We believe that the Experimental Radio Service (ERS) rules have become outdated and must change to keep pace with an evolving telecommunications industry. The competitive and rapidly developing telecommunications market has demonstrated the increased importance and the usefulness of the ERS. The ERS continues to be utilized to foster development of new service concepts and technologies that stimulate economic growth, create new jobs, and increase spectrum utilization and efficiency. The ERS rules were last updated in 1983 and contain obsolete practices and unnecessary regulations. We propose to modernize the ERS and improve the experimental licensing process by encouraging experiments and streamlining and updating Part 5 of the rules. Additionally, the proposals would eliminate outdated and cumbersome regulatory requirements and unnecessary paperwork.

Legal Basis: The proposed action is authorized by Sections 4(i), 303(c), 303(f), 303(g) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 303(c), 303(f), 303(g) and 303(r). These provisions authorize the Commission to make such rules and regulations as may be necessary to encourage more effective use of radio in the public interest.

Description and Estimate of the Number of Small Entities To Which the Proposed Rules Will Apply: For purposes of this Notice, the RFA defines a "small business" to be the same as a "small business concern" under the Small Business Act , 15 U.S..C. § 632, unless the Commission has developed one or more definitions that are appropriate to its activities.[22] Under the SBA, a "small business concern" is one that: (1) is independently owned and

[21] 5 U.S.C. § 603.

[22] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 5 U.S.C. § 632).

operated; (2) is not dominant in its field of operation; and (3) meets any individual criteria established by the Small Business Administration (SBA).[23]

The Commission has not developed a definition of small entities applicable to experimental licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA) rules applicable to radiotelephone companies. SBA has defined a small business for Standard Industrial Classification (SIC) category 4812 (Radiotelephone Communications) to be small entities when they have fewer than 1500 employees.[24]

The Commission processes approximately 1,000 applications a year for experimental radio operations. About half of these are renewals and the other half are for new licenses. The majority of experimental licenses are issued to companies such as Motorola and Department of Defense contractors such as Northrop, Lockheed and Martin Marietta. Businesses such as these may have as many as 200 licenses at one time. The majority of these applications, 70 percent, are from entities such as these. Given this fact, the remaining 30 percent of applications, we assume, for purposes of our evaluations in the IRFA, will be awarded to small entities, as that term is defined by the SBA.

Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements: Our proposals are intended to decrease the regulatory burden on all experimental license applicants, including small entities. For example, we propose to permit applicants the option of applying for a five-year experimental license, in addition to maintaining the current two-year license. We anticipate that a longer term license would reduce the number of renewal applications, and thereby decrease the regulatory burden. We are also proposing to remove an unnecessary requirement that STA applicants hold experimental licenses, and are clarifying the STA rules. We are also proposing to replace existing Sections 5.55(a) and 5.55(b) of our rules with a single provision that would allow an applicant to apply for all of the stations in its experimental system, including fixed stations and associated mobile units, on one experimental license application; and similarly to modify Section 5.62 to permit the filing of only a single application for multiple experiments, when doing so would be appropriate for the proposed project. Additionally, this action proposes to increase the opportunities for students to obtain experimental authorizations, proposes to remove requirements that certain licensees notify the FCC's field offices prior to commencing operations, and proposes to eliminate obsolete rules. These changes should have a positive effect on small entities; however, we are unable to quantify all potential effects on such entities. We invite specific comments on this point by interested parties.

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[23] 15 U.S.C. § 632.

[24] 13 C.F.R. § 121.201 Standard Industrial Classification (SIC) Code 4812.

Significant Alternatives Minimizing the Impact on Small Entities and Consistent with the Stated Objectives: We believe that our proposed actions to revise our ERS rules will eliminate unnecessary and burdensome regulations for small entities. Section 303(g) of the Communications Act of 1934, as amended, charges the Commission with encouraging the larger and more effective use of radio in the public interest. We have considered the alternative of not making the proposed revisions; however, we believe that would not serve the public interest and would continue to place an unnecessary burden on licensees. We solicit comment on specific alternatives to the proposed rule changes listed in the Notice. Some or all of the proposals may be adopted or altered in future actions in this proceeding.

Federal Rules That Duplicate,Overlap, or Conflict With the Proposed Rule: None.